



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/538,966

06/14/2005

Thomas Freser-Wolzenburg

551.1007

7511

23280 7590 08/29/2008  
Davidson, Davidson & Kappel, LLC  
485 7th Avenue  
14th Floor  
New York, NY 10018

EXAMINER

HAUTH, GALEN H

ART UNIT

PAPER NUMBER

4111

MAIL DATE

DELIVERY MODE

08/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/538,966	<b>Applicant(s)</b> FRESER-WOLZENBURG ET AL.	
	<b>Examiner</b> GALEN HAUTH	<b>Art Unit</b> 4111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) 23-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/14/2005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 17-22 in the reply filed on 08/04/2008 is acknowledged. Claims 23-28 are withdrawn from consideration.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17, 18, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sulzbach et al. (PN 6361723).
  - a. With regards to claim 17, Sulzbach teaches a method for molding polyurethane foam articles by introducing an expandable reactive mixture into a mold and evacuating the mold which foams the material (col 1 ln 5-13.) Sulzbach teaches that gas is drawn out of the mold through expansion channels (col 3 ln 22-25) which contain a needle shaped ejection ram (col 2 ln 60, as seen in the figure below the needle valve is a (17) needle shaped ram placed inside of a (19) valve capillary, in the event that this does not satisfy the interpretation of a needle valve an obvious rejection is provided below.) Sulzbach teaches detecting the internal pressure in the mold and closing the expansion channels in response to the foam causing the pressure drop (col 3 ln 22-31.) Sulzbach teaches opening the mold and removing the molding (col 4 ln 8-9.)

Art Unit: 4111

- b. With regards to claim 18, Sulzbach teaches using the valves for evacuation of the mold as they are connected to a vacuum source (col 3 ln 1-12.)
- c. With regards to claim 21, Sulzbach teaches that the valves are all connected to a shared media source of negative pressure (vacuum source, col 3 ln 10-13.)

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 17, 18, and 21 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. (PN 6361723) in view of Frankel (NPL – *Facility Piping Handbook*).

- a. With regards to claim 17, Sulzbach teaches a method for molding polyurethane foam articles by introducing an expandable reactive mixture into a mold and evacuating the mold which foams the material (col 1 ln 5-13.)

Art Unit: 4111

Sulzbach teaches that gas is drawn out of the mold through expansion channels (col 3 ln 22-25) which contain a needle shaped ejection ram (col 2 ln 60.)

Sulzbach teaches detecting the internal pressure in the mold and closing the expansion channels in response to the foam causing the pressure drop (col 3 ln 22-31.) Sulzbach teaches opening the mold and removing the molding (col 4 ln 8-9.) Sulzbach does not explicitly state that the valve is a needle valve per se and the examiner has interpreted the valve to satisfy the claim above; however, if this interpretation is not satisfactory the combination suggested below will suffice.

b. Frankel teaches that needle valves are used for precise process control.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a needle valve for the valves taught by Sulzbach, because needle valves provide for precise process control.

c. With regards to claim 18, Sulzbach teaches using the valves for evacuation of the mold as they are connected to a vacuum source (col 3 ln 1-12.)

d. With regards to claim 21, Sulzbach teaches that the valves are all connected to a shared media source of negative pressure (vacuum source, col 3 ln 10-13.)

7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. (PN 6361723) in view of Frankel (NPL – *Facility Piping Handbook*) as applied to claim 17 above, and further in view of Gebert (PN 3773298).

a. With regards to claim 19, Sulzbach in view of Frankel as applied to claim 17 above teaches a method for molding polyurethane foam in which a reactive

Art Unit: 4111

material is introduced into the mold, the mold is evacuated through needle valves and the valves are shut due to the pressure drop causing foaming of the material. Sulzbach does not teach that the material is introduced into the mold through the needle valves.

b. Gebert teaches a method for introducing reactive polyurethane material into a mold with control (col 1 ln 9-16) using a needle valve (col 4 ln 47-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to introduce the reactive material through the needle valves taught by Gebert into the mold of Sulzbach, because doing so allows for control of pre and post flow reactive material into the mold (col 1 ln 9-16 of Gebert).

c. With regards to claim 20, Sulzbach in view of Frankel as applied to claim 17 above teaches a method for molding polyurethane foam in which a reactive material is introduced into the mold, the mold is evacuated through needle valves and the valves are shut due to the pressure drop causing foaming of the material. Sulzbach teaches that the material is ejected using a ram powered by hydraulics (col 3 ln 27-31).

d. Gebert teaches that needle valves can be acted upon by mechanical, electrical, pneumatic, or hydraulic forces. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use pneumatic force to eject the material (pneumatic force being compressed air) taught by Sulzbach, because pneumatics are an equivalent in the art to hydraulic forces (by using

Art Unit: 4111

pneumatics the needle valves are acting upon the mold with the use of compressed air.)

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. (PN 6361723) in view of Frankel (NPL – *Facility Piping Handbook*) as applied to claim 17 above.

With regards to claim 22, Sulzbach in view of Frankel teaches a method for molding polyurethane foam in which a reactive material is introduced into the mold, the mold is evacuated through needle valves and the valves are shut due to the pressure drop causing foaming of the material. Sulzbach does not teach adjusting the negative pressure applied to each valve individually; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the vacuum pressure applied to each valve individually, because doing so allows for greater process control of the evacuation process and thus is process optimization.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hendry (PN 4781554).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 7:30am-5:00pm ET.

Art Unit: 4111

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sam Yao can be reached on (571)272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 26, 2008

/GHH/

/Naeem Haq/  
Supervisory Patent Examiner, Art Unit 4111